

## REMARKS/ARGUMENTS

Claims 1-6, 8-12, 14-16, 18, 22, and 23 are currently pending. Applicant gratefully acknowledges the Examiner's indication that claims 1-6, 8-12, and 14-16 are allowable. Claims 7, 13, 17, and 19-21 were previously cancelled.

Claims 18, 22, and 23 are rejected under 35 U.S.C. § 112, second paragraph. Independent claim 18 has been amended to delete the repeated limitation. Applicant respectfully requests removal of this rejection.

Claims 18, 22, and 23 are rejected under 35 U.S.C. § 103 as being unpatentable. Reconsideration is respectfully requested in view of the following remarks.

The cited references do not teach or suggest, among other things, first and second lubrication holes on opposite sides of a central lubrication hole and in a longitudinal plane with the central lubrication hole for supplying lubricant to a bearing surface and to a wristpin.

If the piston 10 of Gaiser et al. were modified to include the outlets 9 of Jennings, the modified piston would not include lubrication holes communicating with a bearing surface for supplying lubricant to the bearing surface and to a wristpin. Rather, the outlets 9 of Jennings are in communication with corresponding passages 6 in the pin 5. As disclosed in Jennings, “[a]s the piston reciprocates, the connecting rod 4 oscillates and in one position, as indicated in Figure 5 of the drawings, the passage 6 connects with the outlet 9 and receives oil from the chamber 3.” Jennings, col. 2, lines 21-26. The outlets 9, thereby, direct the oil *through* the pin 5, rather than around the outside surface of the pin 5. In contrast, the recited first and second lubrication holes distribute lubricant along a centerline of a wristpin to facilitate even distribution of the lubricant over the outside surface of the wristpin.

The remaining cited references also do not disclose the claimed piston configuration and are not relied upon by the Examiner for this part of the rejection. Therefore, neither Gaiser et al. nor Jennings, either alone or in combination, teaches or suggests each and every limitation of claim 18.

In addition, as mentioned by the Examiner, Gaiser et al. fails to disclose the recited central cavity and the first and second lubrication holes. Applicant respectfully submits that adding these features to the piston disclosed by Gaiser et al. would not result in the recited piston. That is, one skilled in the art could not simply just add a central lubrication hole and first

and second lubrication holes to an existing piston (e.g., the piston of Gaiser et al.) and have the modified piston be functional. In particular, a “central lubrication hole” as disclosed by either Ribeiro et al. or Zhu et al. would not function properly with “first and second lubrication holes” as disclosed by Jennings. Instead, one would have to redesign an entirely new piston to accommodate the numerous modifications.

Both Ribeiro et al. and Zhu et al. disclose pistons having outer chambers that must at least partially fill with oil in order for the oil to reach the “central lubrication hole.” Ribeiro et al. discloses a piston 10 where oil must partially fill the outer oil gallery 64 to flow uphill (i.e., against gravity) through one or more ports 70 into the inner oil gallery 68. Once in the inner oil gallery 68, the oil must now at least partially fill this gallery 68 such that the oil may flow over a lip (see Fig. 2) surrounding the opening 72 to reach the opening 72.

Likewise, Zhu et al. discloses a piston 205 where oil is pumped into the outer chamber 222 and then flows uphill through the transfer holes 223 into the inner gallery 120. Once in the inner gallery 120, the oil must flow further uphill over the sloped floor portion 206d (see Fig. 4) to reach and drain through the central drain hole 206e.

In contrast, Gaiser et al. discloses a piston 10 where oil in the oil gallery 42 drains *downwardly* through oil passages 86 and 90. In order to modify the piston 10 of Gaiser et al. with either the opening 72 of Ribeiro et al. or the central drain hole 206e of Zhu et al., the oil would have to be prevented from flowing downwardly through these oil passages 86 and 90.

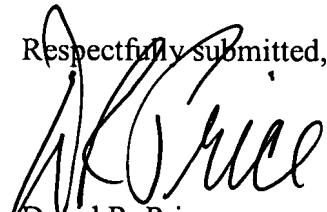
If the outlets 9 of Jennings were added to the piston 10 of Gaiser et al., further problems would result. Instead of allowing the oil gallery 42 of Gaiser et al. to partially fill with oil such that the oil could flow into the cavity 54 and then through the opening 72 of Ribeiro et al. or the central drain hole 206e of Zhu et al., the outlets 9 of Jennings would immediately and constantly drain the oil from the gallery 42. In such a construction, the oil could never reach the “central lubrication hole,” making such a modification entirely useless, if not undesirable, to the modified piston of Gaiser et al.

Therefore, Applicant respectfully submits that one skilled in the art would not combine the teachings of Gaiser et al., Jennings, and either Ribeiro et al. or Zhu et al. since the resultant piston would not function properly.

Furthermore, Applicant respectfully submits that one skilled in the art would not look to combine the teachings of *seven different references* to obtain the claimed piston without hindsight reasoning.

As such, claim 18 is allowable. Claims 22 and 23 depend from claim 18 and are therefore allowable. Claims 22 and 23 also include additional patentable subject matter.

In view of the foregoing, entry of the above amendment and allowance of claims 1-6, 8-12, 14-16, 18, 22, and 23 are respectfully requested.

Respectfully submitted,  
  
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